

UNITED STATES NUCLEAR REGULATORY COMMISSION

PRIVATE FUEL STORAGE L.L.C.

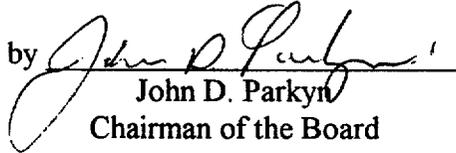
DOCKET NO. 72-22

APPLICATION FOR A LICENSE TO CONSTRUCT AND OPERATE A
SPENT FUEL STORAGE FACILITY

In accordance with the requirements of 10 C.F.R. Part 72, Private Fuel Storage L.L.C., a Delaware corporation, hereby applies for a license to construct and operate a Spent Fuel Storage Facility at an away-from-reactor site located on the Skull Valley Indian Reservation in Tooele County, Utah.

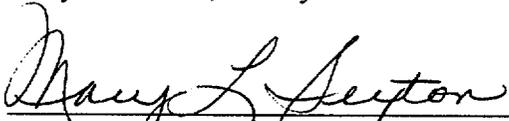
This application contains no Restricted Data or other defense information.

PRIVATE FUEL STORAGE L.L.C.

by 
John D. Parkyn
Chairman of the Board

On this 20th day of June, 1997, before me, a notary public in and for the State of Wisconsin, personally appeared John D. Parkyn, Chairman of the Board of Private Fuel Storage L.L.C., and being first duly sworn acknowledged that he is authorized to execute this document on behalf of the Private Fuel Storage L.L.C., that he knows the contents thereof, and that to the best of his knowledge, information, and belief the statements made in it are true.

Mary L. Sexton, Notary Public



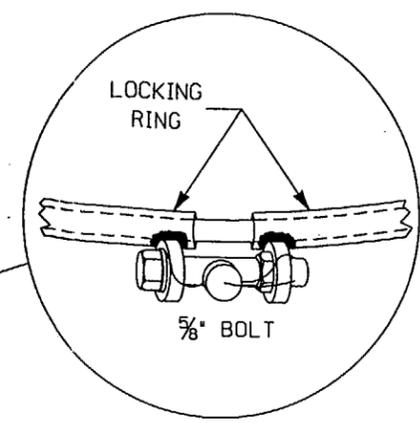
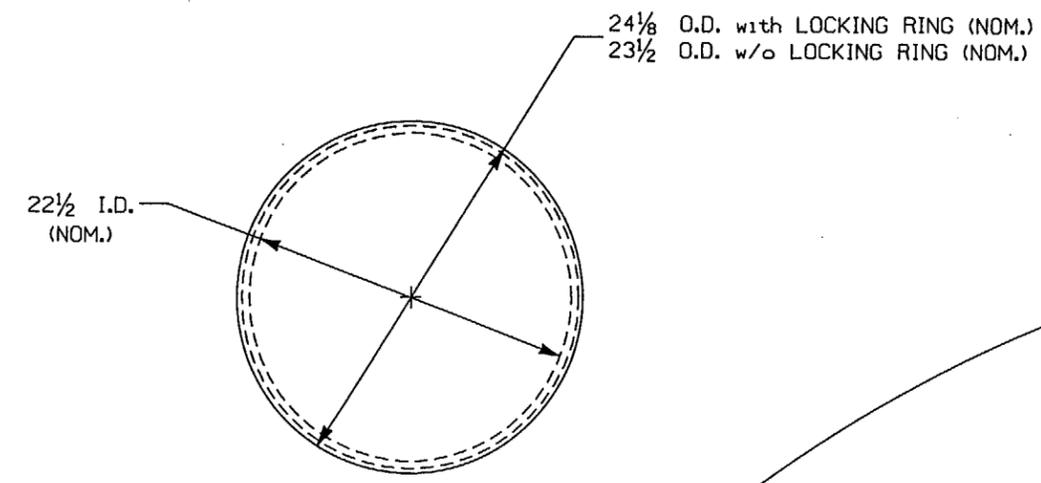
My Commission Expires October 8, 2000

9707020132 970620
PDR ADOCK 07200022
B PDR

LP3023C

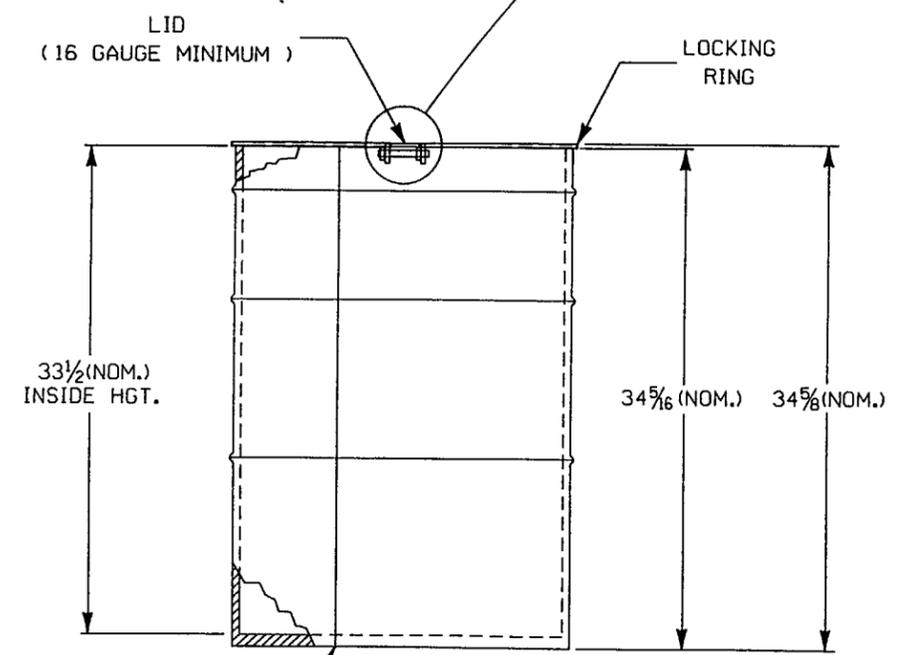
REVISIONS

CAB NO.	REV NO.	CHG. BY	CHK'D. BY	PASSED BY	APP'VD. BY	DATE	DESCRIPTION
	1	SAT	PLF		JMH	9/26/97	ADDED SEAM WELD (SEE FRONT VIEW) CHANGED DIMENSIONS FROM (REF. TO NOM.). REVISED AND ADDED NOTES.
	2	SAT	PLF		JMH	11/3/97	REVISED THE 'CLOSURE' NOTE .
	3	SAT	PLF		JMH	12/3/97	ADDED 'ROLLING PROCESS' NOTE . ADDED 'TOP & BOTTOM CHIME' NOTES .
	4	SAT	PLF		JMH	2/5/98	REVISED THE 'MINIMUM DOT PERFORMANCE CODE' NOTE .

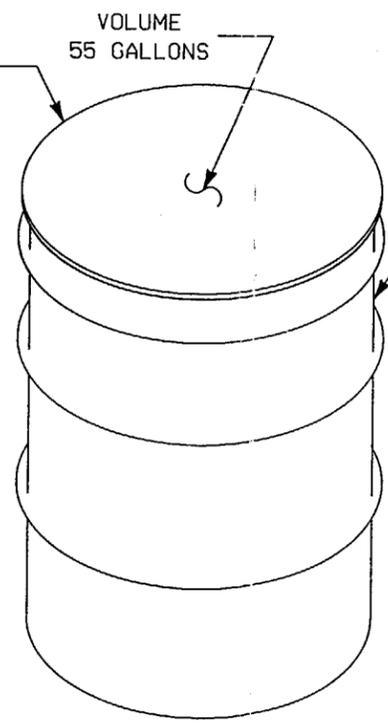


TAMPER SAFE SEAL APPLICATION
NO SCALE

TOP VIEW
SCALE : 1/8" = 1"



FRONT VIEW
SCALE : 1/8" = 1"



ISO VIEW
NO SCALE

BODY & BOTTOM
18 GAUGE MINIMUM

NOTES :

- ♦ RATED CAPACITY - 55 GALLONS (MIN. VOL. 1% < RATED CAPACITY) (MAX. VOL. 5% > RATED CAPACITY)
- ♦ TORQUE LOCKING RING BOLT TO 85 FT. LB.
- ♦ MUST HAVE A TYPE 'E' OR MULTI-LOK - DRAWING SHOWS TYPICAL SEAL .
- ♦ CLOSURE - 12 GAUGE BOLTED RING WITH DROP FORGED LUGS , ONE OF WHICH IS THREADED AND HAS A 5/8 INCH BOLT AND NUT .
- ♦ VERTICAL SEAM OF THE DRUM MUST BE WELDED
- ♦ MUST BE CONSTRUCTED OF MILD STEEL
- ♦ MAXIMUM GROSS WEIGHT LOADED - 600 LBS.
- ♦ MUST HAVE A REMOVABLE HEAD
- ♦ DOT PERFORMANCE CODE - 1A2/X/500/S/ OR 1A2/X/400/S
- ♦ MUST HAVE A GASKET BETWEEN HEAD AND DRUM
- ♦ MUST HAVE 3 ROLLING HOOPS
- ♦ HOOPS SHALL BE FORMED BY A ROLLING PROCESS .
- ♦ THE TOP CHIME - CURL SHALL BE ROLLED TO THE OUTSIDE OF DRUM . ENOUGH DISTANCE SHALL BE LEFT BETWEEN THE CURL AND THE OUTSIDE WALL OF THE DRUM TO ALLOW MOISTURE TO ESCAPE .
- ♦ BOTTOM CHIME - SHALL BE A 5 PLY CHIME .

9802180184-01

DWN.BY SA TRENT	UBE-1 CONTAINER (55 GALLON CAPACITY)	THE BABCOCK & WILCOX COMPANY A MCDERMOTT COMPANY NAVAL NUCLEAR FUEL DIVISION <small>KNOWINGLY OR WILLFULLY FALSIFYING OR CONCEALING A MATERIAL FACT ON THIS FORM OR MAKING FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR REPRESENTATIONS HEREIN COULD CONSTITUTE A FELONY PUNISHABLE UNDER FEDERAL STATUTES</small>	
CHKD.BY P.L. FOSTER			
PASSED BY			
APP'VD.BY J. HAMPTON			
DATE 9/24/97			
c:\home\trent\lp3023c.dgn CAB NO.		DWG. NO.	REV.
DO NOT SCALE USE DIMENSIONS ONLY	SCALE AS NOTED	LP3023 C	4

ANSTEC APERTURE CARD

Also Available on Aperture Card

Private Fuel Storage L.L.C.

License Application

Private Fuel Storage Facility

Docket No. 72-22

**Skull Valley Indian Reservation
Tooele County, Utah**

BEFORE THE
UNITED STATES NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF
PRIVATE FUEL STORAGE L.L.C.
PRIVATE FUEL STORAGE FACILITY

LICENSE APPLICATION

UNDER
10 CFR PART 72

DOCUMENT CONTROL

PAGE	REVISION
a	0
b	0
c	0
d	0
License Application Tab	
i	0
ii	0
1-1	0
1-2	0
1-3	0
1-4	0
1-5	0
1-6	0
1-7	0
1-8	0
1-9	0
1-10	0
Figure 1-1	0
2-1	0
2-2	0
3-1	0
3-2	0
4-1	0
4-2	0
4-3	0
4-4	0
5-1	0
5-2	0
6-1	0
6-2	0
7-1	0
7-2	0
8-1	0
8-2	0

DOCUMENT CONTROL

PAGE	REVISION
9-1	0
9-2	0
10-1	0
10-2	0
11-1	0
11-2	0
12-1	0
12-2	0
13-1	0
13-2	0
Appendix A Tab - Proposed Technical Specifications Tab	
TS-i	0
TS-ii	0
TS-1	0
TS-2	0
TS-3	0
TS-4	0
TS-5	0
TS-6	0
TS-7	0
TS-8	0
TS-9	0
TS-10	0
TS-11	0
TS-12	0
TS-13	0
TS-14	0
TS-15	0
TS-16	0
TS-17	0
TS-18	0
TS-19	0
TS-20	0
TS-21	0
TS-22	0
TS-23	0
TS-24	0

DOCUMENT CONTROL

PAGE	REVISION
TS-25	0
TS-26	0
TS-27	0
TS-28	0
TS-29	0
TS-30	0
TS-31	0
TS-32	0
TS-33	0
TS-34	0
Appendix B Tab - Preliminary Decommissioning Plan Tab	
i	0
ii	0
1-1	0
1-2	0
2-1	0
2-2	0
2-3	0
2-4	0
3-1	0
3-2	0
4-1	0
4-2	0
4-3	0
4-4	0
5-1	0
5-2	0
6-1	0
6-2	0
6-3	0
6-4	0
7-1	0
7-2	0

THIS PAGE INTENTIONALLY BLANK

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
1	GENERAL AND FINANCIAL INFORMATION	1-1
2	TECHNICAL QUALIFICATIONS	2-1
3	TECHNICAL INFORMATION - SAFETY ANALYSIS REPORT	3-1
4	CONFORMITY TO GENERAL DESIGN CRITERIA	4-1
5	OPERATING PROCEDURES - ADMINISTRATIVE AND MANAGEMENT CONTROLS	5-1
6	QUALITY ASSURANCE PROGRAM	6-1
7	OPERATOR TRAINING	7-1
8	INVENTORY AND RECORDS REQUIREMENTS	8-1
9	PHYSICAL PROTECTION	9-1
10	DECOMMISSIONING PLAN	10-1
11	EMERGENCY PLAN	11-1
12	ENVIRONMENTAL REPORT	12-1
13	PROPOSED LICENSED CONDITIONS	13-1

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

- A PROPOSED TECHNICAL SPECIFICATIONS
- B PRELIMINARY DECOMMISSIONING PLAN

CHAPTER 1

GENERAL AND FINANCIAL INFORMATION

1.1 APPLICATION FOR LICENSE

Private Fuel Storage L.L.C. (PFSLLC) proposes to construct and operate an Independent Spent Fuel Storage Installation (ISFSI) at an away from reactor site located on the Skull Valley Indian Reservation in Tooele County, Utah. The Private Fuel Storage Facility (PFSF) site is located approximately 27 miles west-southwest of Tooele City in the center of Skull Valley, 1.5 miles west of Skull Valley Road. The site location is shown in Figure 1-1.

The function of the PFSF will be to store nuclear fuel that has been discharged from U.S. commercial nuclear generating plants. Spent fuel will be transported to Utah by rail. One of two alternatives will be selected for transport between the railroad main line and the PFSF site. The shipping cask will either be off-loaded at an intermodal transfer point at the railroad main line and loaded onto a heavy haul tractor/trailer for transporting to the PFSF, or the shipping cask will be transported via a new railroad spur connecting the PFSF directly to the railroad main line.

Multi-purpose canisters will be utilized for both the shipping casks and storage casks. No handling of bare fuel will occur at the PFSF since operations will be limited to handling of sealed canisters. The project will operate under a "start clean, stay clean" (contamination free) philosophy which will serve to minimize the possibility of transporting any externally contaminated canisters to the PFSF. The canisters will be stored at the PFSF in a vertical configuration inside concrete storage casks, which will be stored on concrete pads in a protected area of the site.

This license application for the proposed PFSF has been prepared in accordance with 10 CFR Part 72 and the guidance provided in NRC Regulatory Guide 3.50, "Standard Format and Content for a License Application to Store Spent Fuel and Radioactive Waste", Rev. 1, September 1, 1989. The License Application consists of the following parts:

- (a) The License Application including the Proposed Technical Specifications and Preliminary Decommissioning Plan, as required by 10 CFR 72.26 and 10 CFR 72.30, respectively, which are set out herein.
- (b) The technical information outlined in a Safety Analysis Report as required by 10 CFR 72.24 which is enclosed in a separate document entitled "Private Fuel Storage Facility Safety Analysis Report" forwarded herewith and made a part hereof.
- (c) The emergency planning information required by 10 CFR 72.32 which is contained in a separate document entitled "Private Fuel Storage Facility Emergency Plan" forwarded herewith and made a part hereof.
- (d) Environmental information required by 10 CFR 72.34 and 10 CFR 51, Subpart A, which is contained in a separate document entitled "Private Fuel Storage Facility Environmental Report" forwarded herewith and made a part hereof.
- (e) Physical safeguards information required by 10 CFR 72, Subpart H which is contained in a separate document entitled "Private Fuel Storage Facility Security Plan". The Security Plan is forwarded under separate cover in accordance with 10 CFR 72, Subpart H and is made a part hereof.

Operations at the originating reactors in preparation or support of spent fuel shipments to the PFSF are performed under the individual reactor's license. Such activities include loading spent fuel into the canisters, seal welding the canisters, and transferring the canisters into shipping casks. Any changes to the reactor licensee's facilities or procedures in order to accommodate these activities will be the responsibility of the individual licensee, and are not a part of this License Application.

Transportation of the spent fuel shipping casks from the originating reactor to the PFSF will occur in accordance with 10 CFR 71 and the originating reactor's license, and is not a part of this License Application.

1.2 NAME OF THE APPLICANT

Private Fuel Storage L.L.C.

1.3 ADDRESS OF APPLICANT

Private Fuel Storage L.L.C.
PO Box C4010
La Crosse, WI 54602-4010

1.4 DESCRIPTION OF BUSINESS OF APPLICANT

PFSLLC is a limited liability company owned by eight U.S. utilities which serve more than 17 million customers in 21 states. Its headquarters are in La Crosse, Wisconsin.

In 1996, the member utilities provided electrical energy to over 17 million customers in the states of Wisconsin, Minnesota, New York, Iowa, Michigan, Illinois, Pennsylvania,

New Jersey, West Virginia, Ohio, Indiana, Virginia, Kentucky, Tennessee, North Dakota, South Dakota, Alabama, Mississippi, Georgia, Florida, and California. The operating revenue for the member utilities in 1996 totaled \$37 billion.

1.5 LEGAL STATUS AND ORGANIZATION

PFSLLC is a limited liability company organized and existing under the laws of the state of Delaware with its principle office located in La Crosse, Wisconsin, at the address stated above. It is registered and authorized to transact business in the state of Utah.

PFSLLC is not owned, controlled, or dominated by any alien, a foreign corporation, or foreign government. The names of PFSLLC directors and principal officer, all of whom are citizens of the United States, are provided at the end of this chapter.

1.6 FINANCIAL QUALIFICATIONS

A financing plan has been developed which ensures that the PFSLLC has reasonable assurance of obtaining the necessary funds to construct, operate and decommission the PFSF. Several mechanisms will be used, including equity contributions from PFSLLC members pursuant to Subscription Agreements, pre-shipment customer payments pursuant to Service Agreements (through which the customers of the PFSLLC commit to store their spent fuel at the PFSF and the PFSLLC agrees to provide the customers with storage services), and annual storage fee payments pursuant to Service Agreements. The PFSLLC is also retaining the option of obtaining portions of the construction funds through the sale of debt securities secured by the Service Agreements.

The PFSF project has been developed on a phased basis. Steps I and II, which involved preliminary investigations, predated the formation of the PFSLLC. Step III began with the formation of the PFSLLC and concluded with the filing of the License Application. This step was funded by direct payments to the PFSLLC from member utilities pursuant to Subscription Agreements. Step IV includes the NRC licensing proceeding as well as detailed design and preparation of bid specifications. The budget for Step IV is approximately \$10 million, including contingencies, to be funded by direct payments to the PFSLLC from the member utilities pursuant to Subscription Agreements. These Step IV payments will be made on a quarterly basis. Given the relatively small size of this payment for any participating utility, there is the reasonable assurance that the PFSLLC will obtain Step IV funding.

Step V represents the construction of the PFSF. The budget for this phase is \$100 million and includes site preparation; construction of the access road, administration building, visitors center, security and health physics building, operations and maintenance building, canister transfer building and storage pads; procurement of canister transfer and transport equipment; and transportation corridor construction. The Step V budget also includes necessary personnel costs, licensing fees, and host benefits, as well as a contingency amount.

Step V will be funded through several mechanisms. An additional \$6 million in equity contributions is planned from PFSLLC members pursuant to Subscription Agreements. The bulk of the Step V costs is expected to be funded through Service Agreements with PFSF customers (including both PFSLLC members and non-members). Payments under each Service Agreement will be spread out over the period of time from construction through spent fuel delivery. No construction will proceed unless Service Agreements committing for a significant quantity of spent fuel storage have been signed. The nominal target is 15,000 MTU of storage commitments. Raising the non-

equity portion of Step V costs through Service Agreements will allow the PFSLLC to avoid financing costs for construction. The PFSLLC, however, retains the option to finance the non-equity portion of Step V costs through debt financing secured by Service Agreements. As with direct financing from customers, no construction will take place without the commitment through Service Agreements for a significant quantity of spent fuel storage. Unless PFSLLC members and non-members have committed to a significant quantity of storage, construction of the PFSF will not begin. Thus, there will be reasonable assurance that the PFSLLC will obtain Step V funding.

Step VI, the operational phase of the PFSF, will also be funded through the Service Agreements. The significant costs of this phase will include procurement and/or fabrication of canisters (\$432 million) and storage casks (\$134 million). These components will be obtained on an as-needed basis, to coincide with the schedule for moving spent fuel to the PFSF. All capital costs associated with the storage of any spent fuel will be paid by the customer pursuant to the Service Agreement prior to the acceptance by the PFSLLC of that spent fuel. Since the PFSF will not accept spent fuel for storage without prior payment through Service Agreements of the necessary capital costs for transportation and storage, there is reasonable assurance that the PFSLLC will obtain the necessary Step VI costs.

The on-going operations and maintenance cost for spent fuel in storage at the PFSF will be paid by the customer on an annual basis as required by the Service Agreements. The annual operations and maintenance cost is estimated to be \$49 million for a 20 year facility operating life and \$31 million for a 40 year life. The Service Agreements will provide assurance for the continued payment of these costs by requiring the customers to provide annual financial information, meet creditworthiness requirements, and , if necessary, provide additional financial assurances (such as an

advance payment, irrevocable letter of credit, third-party guarantee, or a payment and performance bond).

1.7 DECOMMISSIONING FUNDING ASSURANCE

The PFSF will be operated under a "start clean, stay clean" philosophy, with contractual obligations in the Service Agreement with each customer and PFSF administrative procedures to assure that no radioactive contamination is introduced into the facility. Thus the intention is to maintain the PFSF free of radiological contamination at all times. During the operational phase of the facility, all radioactive contamination will be removed immediately upon its discovery. The cost estimate for decommissioning nonetheless conservatively assumes that certain areas and components will require decontamination.

The method of funding decommissioning activities consists of two components: storage cask decommissioning and decommissioning for the remainder of the facility. The costs for decommissioning each storage cask is estimated at \$17,000. This amount will be prepaid into an externalized escrow account under the Service Agreement with each customer, prior to shipment of each spent fuel canister to the PFSF. The full amount of potential decommissioning costs will thus be collected in a segregated account prior to the receipt of each spent fuel canister at the PFSF. This method of funding provides for prepayment of the storage cask decommissioning costs prior to any potential exposure of the storage cask to radiation or radioactive material, and therefore prior to the need for any decommissioning. As storage cask decommissioning is completed, the amount of funds in the escrow account will be adjusted periodically to reflect the remaining decommissioning efforts. This method of funding complies with the requirements of 10 CFR 72.30(c)(1).

The costs of decommissioning the remainder of the facility and site is estimated to be \$1,631,000, which will be funded through a letter of credit coupled with an external sinking fund. Customers will be required under the Service Agreements to pay the costs to decontaminate any portion of the facility for which they may be responsible for contaminating. As the actual costs of decontamination and decommissioning are paid into the external sinking fund, the letter of credit will be reduced by an equivalent amount. This funding method complies with the requirements of 10 CFR 72.30(c)(3).

The per-canister fee and the amounts of the escrow account, external sinking fund and letter of credit will be reviewed and adjusted annually to account for inflation and any changes in the scope or cost of decommissioning. The escrow account, letter of credit and external sinking fund will be established in conformance with the guidance of NRC Regulatory Guide 3.66.

1.8 SITE LOCATION AND COMPLETION DATES

The proposed PFSF is located on the Skull Valley Indian Reservation which is within Tooele County, Utah, 27 miles west-southwest of Tooele City. The site is located 1.5 miles west of the Skull Valley Road. It is anticipated that the PFSF will be issued a specific license to receive, transfer and possess spent fuel in accordance with the requirements of 10 CFR 72 prior to January 1, 2000. Construction of the PFSF is scheduled to start on January 1, 2000, with completion by December 31, 2001. The construction and preoperational testing will be completed in time to allow operation of the facility in 2002.

1.9 RESTRICTED DATA

This application does not contain any Restricted Data or other defense information, and

it is not expected that any will be included in the future. The applicant agrees that it will not permit anyone to have access to such information if it does become included and will not permit any individual to have access to Restricted Data until the Office of Personnel Management, the successor to the Civil Service Commission, shall have made an investigation and a report to the Nuclear Regulatory Commission on the character, association, and loyalty of such individual, and the Nuclear Regulatory Commission shall have determined that permitting such person to have access to Restricted Data will not endanger the common defense and security of the United States.

1.10 COMMUNICATIONS

It is requested that all communication pertaining to this application be sent to:

**John D. Parkyn
Chairman of the Board
Private Fuel Storage L.L.C.
PO Box C4010
La Crosse, WI 54602-4010**

PRIVATE FUEL STORAGE L.L.C.

Directors

June 1997

Ronald Cocherell
Manager Nuclear Fuel Services
Southern Nuclear Operating Company

Richard S. Phares
Manager Nuclear Assessment
Illinois Power

Robert W. Keaten
Vice President - Engineering
GPU Nuclear

Stephen Quinn
Vice President of Nuclear Power
Consolidated Edison

John D. Parkyn
Vice President
Genoa FuelTech, Inc.

Edward L. Watzl
President - NSP Generation
Northern States Power

Doug H. Malin
Nuclear Fuel Manager
Indiana Michigan Power

Principal Officer of the Company

John D. Parkyn
Chairman of the Board

CHAPTER 2

TECHNICAL QUALIFICATIONS

Chapter 9 of the PFSF Safety Analysis Report (SAR) provides a discussion of Technical Qualifications of the PFSF staff to design, construct, and operate the PFSF facility. PFSLLC hereby commits to staff the project with personnel possessing the required skills throughout all phases of the project.

The experience gained by PFSLLC personnel with the design, construction, and operation of Nuclear Generating Plants and onsite ISFSIs is being applied to the design of the PFSF. This experience ensures that the PFSF will be operated in a manner which maintains the health and safety of the public and of operating personnel.

The PFSLLC has evaluated the spent fuel storage systems currently available or under development and has selected the canister-based system for use at the PFSF. The vendors selected to provide the canister-based storage systems at the PFSF are Holtec International (Holtec) and Sierra Nuclear Corporation (SNC). The Holtec system is described in their Topical Safety Analysis Report for the Holtec International Storage and Transfer Operation Reinforced Module Cask System (HI-STORM 100 Cask System), Holtec Report HI-951312, Revision 1, Docket 72-1014. The SNC system is described in their Safety Analysis Report for the TranStor Storage Cask System, SNC-96-72SAR, Sierra Nuclear Corporation, Revision B, Docket 72-1023.

Stone & Webster Engineering Corporation (SWEC) is providing engineering and design support for the PFSF, excluding the storage cask systems, and is assisting in the preparation of the License Application. PFSLLC engineers have worked in conjunction

with SNC, Holtec and SWEC in developing the site specific design and licensing documents. PFSLLC is therefore knowledgeable in all aspects of the project.

Details of PFSLLC organizational structure, preoperational testing and operation of the PFSF, training program, emergency planning, and physical security are described in Chapter 9 of the PFSF SAR.

CHAPTER 3

TECHNICAL INFORMATION - SAFETY ANALYSIS REPORT

The PFSF is designed to provide storage of spent fuel from U.S. nuclear power plants. The PFSF will utilize a dry cask storage concept. Dry cask storage safely stores spent nuclear fuel inside of sealed canisters rather than in a spent fuel pool. The storage system technology is compatible with the long-term plans of the DOE interim storage facility and permanent repository. The storage system is totally passive and provides physical protection, containment, criticality control, and radiation shielding for the safe storage of spent fuel. Heat dissipation is accomplished by radiant and natural convective cooling. The PFSF is designed to store spent fuel for up to 40 years, by which time it is anticipated that all of the spent fuel will be transferred offsite and the facility ready for decommissioning. The initial request for a license is for a term of 20 years. Prior to the end of the initial license term an application for license renewal will be submitted.

The PFSF will utilize the Holtec International (Holtec) HI-STORM 100 Cask System and Sierra Nuclear Corporation (SNC) TranStor Cask Storage System. These systems are canister-based dry fuel storage systems where multiple spent fuel assemblies are stored in a sealed metal canister in a dry inert environment. The HI-STORM canister holds up to 24 PWR or 68 BWR spent fuel assemblies. The TranStor canister holds up to 24 PWR or 61 BWR spent fuel assemblies. The PFSF is designed to store up to 40,000 Metric Tons of Uranium¹ (MTU) of spent fuel from U.S. commercial power reactors, which will require approximately 4000 casks. The spent fuel will originate from U.S. nuclear power plants where it is packaged into the canisters, then placed within

¹ Metric Tons of Uranium (initial uranium). This includes the small amount of mixed oxide fuels that are anticipated to require storage.

shipping casks and shipped to the PFSF. Activities at the plants and during shipping will be in accordance with 10 CFR 50 and 10 CFR 71 and are not part of this license application. Activities of the PFSF will be in accordance with 10 CFR 72 and will include receipt of the shipping casks, transferring the canisters from the shipping casks to the storage casks, and placement of the storage casks outdoors on the concrete cask storage pads. The PFSF will contain approximately 500 pads, each capable of supporting eight storage casks.

Since the canister-based storage systems are sealed, the PFSF is designed to handle canisters within the different casks without having to directly handle the spent fuel. This enables the PFSF to avoid handling or processing significant quantities of radioactive waste. The only waste anticipated from the PFSF is health physics survey materials, produced when the canisters are inspected to ensure contamination is within Technical Specification and regulatory limits, and possibly a small quantity of waste from dry decontamination operations.

The PFSF Safety Analysis Report (SAR) documents the adequacy of the PFSF storage system components to safely store spent nuclear fuel, as well as the supporting structures and systems, and satisfies the regulatory requirements of 10 CFR 72. The SAR was prepared in accordance with the format specified in Regulatory Guide 3.48, "Standard Format and Content for the Safety Analysis Report for an Independent Spent Fuel Storage Installation or Monitored Retrievable Storage Installation (Dry Storage)," Revision 1, August, 1989, and with consideration of NUREG-1567, "Standard Review Plan for Spent Fuel Dry Storage Facilities," Draft Report for Comment, October, 1996.

CHAPTER 4

CONFORMITY TO GENERAL DESIGN CRITERIA

The PFSF complies with the general design criteria in Subpart F of 10 CFR 72. The PFSF's specific conformance to the general design criteria is covered in more detail in the Safety Analysis Report and other documents submitted with this License Application. A cross reference to the applicable SAR sections is given in Table 4-1.

TABLE 4-1

**PRIVATE FUEL STORAGE FACILITY COMPLIANCE WITH
GENERAL DESIGN CRITERIA (10 CFR 72, SUBPART F)**

<u>10CFR72 SECTION</u>	<u>TOPIC</u>	<u>SAR SECTION WHERE ADDRESSED</u>
72.122 (a)	Quality Standards	Chapters 4, and 11 and Sections 3.4, and 9.4.1.1.5
72.122 (b)	Protection against environmental conditions and natural phenomena	Sections 3.2, 3.2.10.2.11, 4.2, 4.7, Chapter 8, and sections 8.2.1.1, 8.2.1.2, and 8.2.2.2
72.122 (c)	Protection against fires and explosions	Sections 3.3.6, 4.2.1.5.1(I) and(J), 4.2.2.5.1(I) and (J), 4.7.1.5.1(G), 4.7.3.5.1(E), 4.7.4.5.1(D), 8.2.4.2 and 8.2.5.2
72.122 (d)	Sharing of structures, systems, and components	Section 1.2
72.122 (e)	Proximity of sites	Section 7.6.2
72.122 (f)	Inspection, Maintenance, and Testing of systems and components	Section 4.2, 4.7, 4.7.2.1, 5.1.4.7, 5.1.6.5 and 9.2.2
72.122 (g)	Emergency capability	Sections 4.1.2 and 9.5
72.122 (h)	Confinement barriers and systems	Sections 3.3.2, 4.2.1.5.5, 4.2.2.5.5, 7.3.4, 7.3.5, 8.2.7.2 and 8.2.10.1
72.122 (i)	Instrumentation and control systems	Sections 3.3.3.2, and 5.4.1
72.122 (j)	Control room or control area	Sections 5.1, 5.5 and 10.2.5

TABLE 4-1 (cont.)

**PRIVATE FUEL STORAGE FACILITY COMPLIANCE WITH
GENERAL DESIGN CRITERIA (10 CFR 72, SUBPART F)**

<u>10 CFR 72 SECTION</u>	<u>TOPIC</u>	<u>SAR SECTION WHERE ADDRESSED</u>
72.122 (k)	Utility or other services	Section 4.1.2.3
72.122 (l)	Retrievability	Sections 3.3.7 and 4.7
72.124 (a)	Design for criticality safety	Sections 3.3.4, 4.2.1.5.4, and 4.2.2.5.4
72.124 (b)	Methods of criticality control	Sections 3.3.4, 4.2.1.5.4, and 4.2.2.5.4
72.124 (c)	Criticality Monitoring	Section 4.2.1.5.4 and 4.2.2.5.4
72.126 (a)	Exposure control	Sections 3.3.5, 4.2.1.5.3, 4.2.2.5.3, 7.1.1, and 7.1.2
72.126 (b)	Radiological alarm systems	Sections 3.3.5 and 7.3.5
72.126 (c)	Effluent and direct radiation monitoring	Sections 3.3.5, 7.3.5 and 7.6.1
72.126 (d)	Effluent control	Section 7.1.2 and 8.2
72.128 (a)	Spent fuel storage and handling systems	Sections 3.3.7, 4.2, 4.7, and 10.2.3
72.128 (b)	Waste treatment	Section 3.3.7 and Chapter 6
72.130	Criteria for decommissioning	Sections 3.5 and 9.6.3 (also Decommissioning Plan (License Application Appendix B) and Environmental Report Section 4.6)

THIS PAGE INTENTIONALLY BLANK

CHAPTER 5

OPERATING PROCEDURES -
ADMINISTRATIVE AND MANAGEMENT CONTROLS

Procedures for operating the PFSF will be developed under the Quality Assurance Program approved by the NRC. Procedures will include those necessary for each operating mode as well as the various mechanical, electrical, and instrument operating and maintenance functions. The PFSF procedures will consider all license terms and restrictions, and will reflect the commitments made in the Safety Analysis Report regarding PFSF operations. All procedures will be reviewed and approved by the Operations Review Committee (ORC) and the Safety Review Committee (SRC), and will be maintained in a controlled manner to ensure that only current copies are available for staff usage in operating or maintaining the facility. Operating procedures will include shipping cask receipt, inspection, and unloading; canister transfer between shipping cask and storage cask; movement of storage cask between fuel handling building and storage pad; assembly of storage cask instrumentation; preparation and release of shipping cask for off-site transport; and periodic monitoring of storage casks.

Administrative and management controls will be developed to ensure that the principles of protecting the health and safety of the public and protecting against danger to property are placed ahead of any other considerations. Controls on facility operations shall be thorough and well understood by the PFSF staff as an operating philosophy underlying any specific procedure or action. Chapter 9 of the Safety Analysis Report provides specific information regarding the organizational structure and training program which have been outlined for the PFSF. Operating controls and limits are further addressed in Chapter 10 of the Safety Analysis Report and in the Technical Specifications which have been proposed for the PFSF.

THIS PAGE INTENTIONALLY BLANK

CHAPTER 6

QUALITY ASSURANCE PROGRAM

All activities associated with the PFSF including site investigation, facility design, procurement, shop fabrication, onsite construction, preoperational testing, conduct of operation, and ultimate decommissioning are governed by the applicable portions of the PFSLLC Quality Assurance (QA) Program. The PFSLLC QA Program was approved by the NRC on November 3, 1996 for use under 10 CFR 71, Subpart H (Docket 71-0829). The PFSLLC QA Program will be used to satisfy the requirements of 10 CFR 72, Subpart G.

The QA Program will be understood by all involved in its execution and will be implemented, as applicable, for all phases of the project, including any activities important to safety that have been carried out prior to submittal of the License Application.

The QA Program is applied to activities, structures, systems, and components of the PFSF commensurate with their importance to safety. Chapter 11 of the SAR provides a detailed description of the QA Program.

THIS PAGE INTENTIONALLY BLANK

CHAPTER 7

OPERATOR TRAINING

The Operator Training Program will consist of a combination of on-the-job training (OJT) and classroom training leading to Certification. The OJT requirements will be documented in a set of Qualification Cards containing the Job Performance Measures of practical factors that are required to be performed by the Operator. Each person to become Certified must have these Qualification Cards completed prior to being allowed to independently perform the applicable tasks. Of necessity, the first individuals certified may have to improvise in certain situations to complete the practical factors. The Qualification Cards will be developed based upon a job and task analysis.

The operators will have to pass comprehensive written and practical examinations in order to become Certified. The trainee must score 80% or higher on the written exam to pass. The practical exam shall be on a pass/fail basis, as evaluated by previously Certified personnel.

The Certified individuals must also pass a medical exam in accordance with ANSI N546-1976, "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants". These certified operators should be given a medical examination every 2 years.

The PFSF training program's content, documentation and recordkeeping requirements are more fully set forth in Section 9.3 of the SAR.

THIS PAGE INTENTIONALLY BLANK

CHAPTER 8

INVENTORY AND RECORDS REQUIREMENTS

Records showing the receipt, inventory, location, disposal, acquisition and transfer of all spent fuel at the PFSF will be maintained in accordance with the requirements of 10 CFR 72.72. The PFSF material status reports and nuclear material transaction reports will be maintained in accordance with the requirements of 10 CFR 72.76 and 10 CFR 72.78. It is expected that material accountability at the PFSF will be under a separate Reporting Identification Symbol (RIS) number to be designated by the NRC.

THIS PAGE INTENTIONALLY BLANK

CHAPTER 9

PHYSICAL PROTECTION

As required by Subpart H of 10 CFR 72, "Physical Protection," the PFSF Physical Security Program is described in the following PFSF documents:

- Security Plan, to include physical protection designs
- Guard Training & Qualification (T&Q) Plan
- Safeguards Contingency Plan

These plans are classified as Safeguards Information and are therefore controlled and withheld from public disclosure in accordance with 10 CFR 73.21. The above plans were submitted for NRC review under separate cover concurrently with this license application.

THIS PAGE INTENTIONALLY BLANK

CHAPTER 10

DECOMMISSIONING PLAN

10.1 DECOMMISSIONING PROGRAM

A Preliminary Decommissioning Plan for the PFSF is provided in Appendix B to this license application. Decommissioning of the PFSF will be performed in accordance with 10 CFR 72.54 and 10 CFR 72.130.

The design features of the Holtec HI-STORM Storage Cask System and the Sierra Nuclear TranStor Storage Cask System to be utilized at the PFSF provides both ease and simplicity for the process of decommissioning the facility. Both technologies are canister based dry fuel storage systems with multiple spent fuel assemblies stored in a dry inert environment inside a sealed metal canister. The canister is placed inside a concrete storage cask and stored on a concrete pad. At the end of the storage period, the canister will be removed from the storage cask and shipped off site.

Following shipment of the canisters off site, the PFSF will be decommissioned by identification and removal of any residual radioactive material above the applicable NRC limits for unrestricted release. A final radiation survey will be performed, after which the NRC license may be terminated and the site released for unrestricted use.

10.2 DECOMMISSIONING FUNDING

Private Fuel Storage L.L.C. (PFSLLC) will assess a sum sufficient to complete decommissioning of the storage casks through the Service Agreement with each customer. These decommissioning assessments will be deposited into an escrow

account prior to the shipment of each spent fuel canister from the originating reactor. This escrow account will be segregated from PFSLLC assets and outside the administrative control of the PFSLLC in accordance with 10 CFR 72.30(c)(1). The escrow account will grow incrementally as the potential need for storage cask decommissioning grows, and will provide for all storage cask decommissioning activities to be pre-funded. The escrow account will be reviewed and adjusted annually for inflation and any changes in the scope or cost of decommissioning.

The facility and site decommissioning costs, exclusive of the storage casks, will be funded by a letter of credit coupled with an external sinking fund into which customers will be required, under the service agreements, to pay the costs to decontaminate any portion of the facility for which they may be responsible for contaminating. When the actual costs of decontamination and decommissioning are paid into the external sinking fund, the letter of credit will be reduced by an equivalent amount. The amounts in the external sinking fund and the letter of credit will be reviewed and adjusted annually to account for inflation and any changes in the scope or cost of decommissioning. This funding method complies with the requirements of 10 CFR 72.30(c)(3).

It is not anticipated that any radioactive contamination or activation of the PFSF will occur, but the assumption that it will and the collection of funds for this purpose is a conservative approach to PFSF decommissioning funding.

CHAPTER 11

EMERGENCY PLAN

The Emergency Plan (EP) has been prepared to establish the procedures and practices for management control over unplanned or emergency events that may occur at the PFSF, and to meet the requirements of 10 CFR 72.32(a).

The PFSF EP considers and evaluates the consequences of credible and non-credible events and emergencies hypothesized to occur at the PFSF. The EP details the types of accidents, accident classification, notification requirements, protective response, organizational control, safe condition of reentry and recovery planning. The EP also describes the required training of emergency response personnel, maintenance of emergency preparedness and emergency response records and resources available at the PFSF.

There is a single emergency classification level for events at the PFSF, the Alert classification. This is based on worst-case consequences of potential accidents at the PFSF and the guidance of NUREG-1567(Draft), and is consistent with NUREG-1140, which concluded that the worst-case accident involving an ISFSI has insignificant consequences to the public health and safety.

The PFSF EP has been reviewed by the Tooele County Department Of Emergency Management, the off-site authorities expected to respond to the site in case of an accident with local law enforcement, fire support and medical services. Their comments have been addressed in the PFSF EP submitted herewith. A copy of the Tooele County comments and the PFSF responses are included with the EP.

Further information on the PFSF EP is provided in Section 9.5 of the Safety Analysis Report and within the EP itself, which is submitted with this License Application.

CHAPTER 12

ENVIRONMENTAL REPORT

The proposed site for the PFSF is located in Tooele County, Utah, which is in the northwestern portion of the state, bordered on the north by Box Elder County; on the east by Davis, Salt Lake, and Utah Counties; on the south by Juab County; and on the west by the State of Nevada (Elko County). Tooele County has a combination of several environments, including the Great Salt Lake, western deserts, fertile valleys, and rugged mountains. The Skull Valley is sparsely populated with limited agricultural or other activity. Land owners and administrators of the Skull Valley area include the Bureau of Land Management, privately owned ranches, the Skull Valley Indian Reservation, the Wasatch National Forest, and the Dugway Proving Ground. There are no existing industrial, recreational, or residential uses within the boundaries of the proposed site, nor are there any major towns within 10 miles of the PFSF site. The Goshute Village, which has about 30 residents, is located approximately 3.5 miles east-southeast of the site. The nearest residence is approximately 2 miles east-southeast of the nearest storage cask location.

The proposed facility would be located on property leased from the Skull Valley Band of Goshute Indians. The PFSF will require a fenced perimeter enclosing an area of approximately 99 acres for development of the proposed facility Restricted Area (RA) for spent fuel storage. In addition, an owner-controlled area (OCA) of 820 acres, encompassing the storage area, will be bounded by typical range fencing (barbed wire) to identify the limits of the site.

The effects to the environment associated with the construction, operation, and decommissioning of the PFSF have been evaluated and are documented in the PFSF

Environmental Report (ER). These effects have been found to be minimal due to the location of the facility and the passive design features of the canister-based storage system that was selected for use at the PFSF. Radiation doses resulting from storage of spent fuel at the PFSF to areas outside of the RA, OCA, and nearest residence have been determined to be within 10 CFR 20 and 10 CFR 72 limits.

The Environmental Report, which is being submitted with this License Application, was prepared in accordance with the requirements of Subpart E of 10 CFR 72 and Subpart A of 10 CFR 51. The ER follows the format and content guidelines set forth in Appendix B of NUREG-1567, Standard Review Plan for Spent Fuel Dry Storage Facilities, (Draft), October 1996.

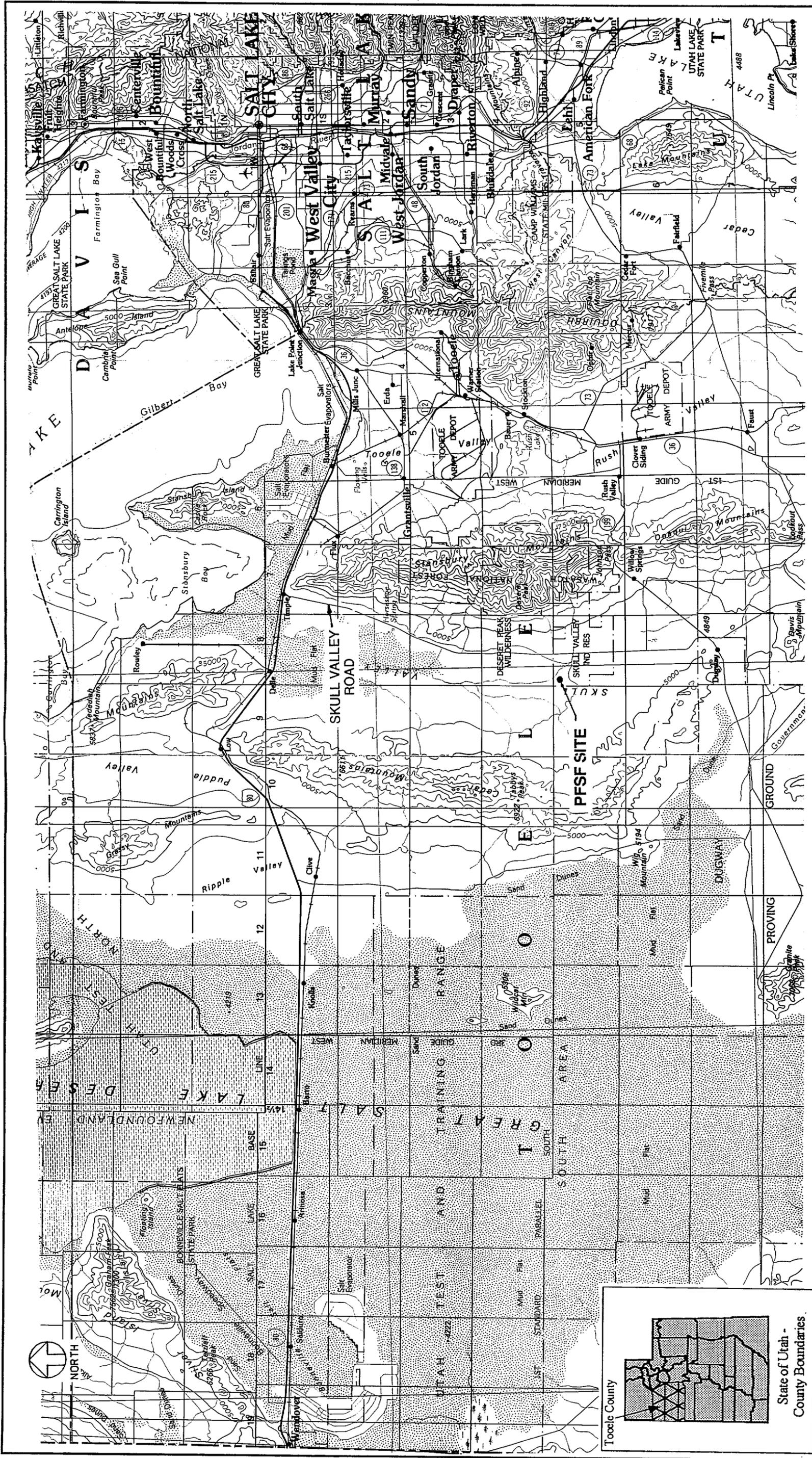
CHAPTER 13

PROPOSED LICENSED CONDITIONS

The PFSF administrative and management organization, procedures and controls, including review and approval activities, auditing and reporting requirements, and interfaces with other organizations will be as described in Chapter 5 of this License Application. The design, construction, and operation of the PFSF will be performed under the guidance of the PFSLLC Quality Assurance Program as described in Chapter 6 of this License Application.

The PFSF storage system is totally passive and requires a minimum of operating controls. Chapter 10 of the SAR describes the operating controls and limits of the PFSF. The Technical Specifications govern the safety of the receipt, handling, and storage of irradiated nuclear fuel at the PFSF. Verification of design features, test procedures, functional and operating limits, limiting conditions of operation and surveillance requirements are described in the Proposed PFSF Technical Specifications (Appendix A).

THIS PAGE INTENTIONALLY BLANK



**ANSTEC
APERTURE
CARD**

Scale 1:500 000
1 inch equals approximately 8 miles
Contour interval 500 feet

National Geodetic Vertical Datum of 1929

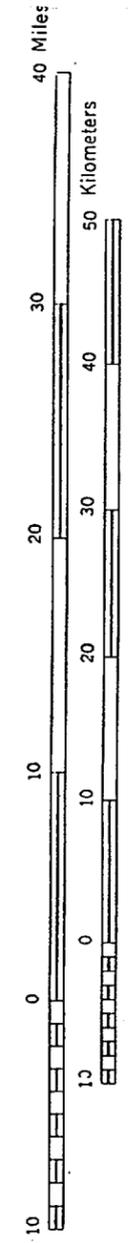


Figure 1-1

PFSF LOCATION
PRIVATE FUEL STORAGE FACILITY
LICENSE APPLICATION

Also Available on
Aperture Card

9707020132-01